In the Claims:

Please amend the claims as follows:

1-46. Cancelled.

47. (New) A sensor unit, comprising:

a measured signal receiver registering a measured signal;

an A/D converter digitizing the measured signal;

a transceiver device wirelessly transmitting data to an environmental device; and

a processor activating the measured signal receiver, the A/D converter, and the transceiver device, the processor digitizing the measured signal and subsequently transmitting directly, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value.

48. The sensor unit of claim 47, wherein each of the measured signal receiver, the A/D converter, and the transceiver device includes (i) a data input, (ii) a data output and (iii) a control input, the data input of the A/D converter being connected to the data output of the measured signal receiver, the data input of the transceiver device being connected to the data output of the A/D converter, the transceiver device exchanging data with the environmental device via the corresponding data output, the processor controlling the measured signal receiver, the A/D converter, and the transceiver device via the corresponding control inputs.

49. The sensor unit of claim 47, wherein the sensor unit is a fill level sensor.

50. The sensor unit of claim 49, wherein the measured signal receiver transmits and receives one of a radar signal, an ultrasound signal and a guided microwave signal.

51. The sensor unit of claim 47, wherein the measured signal is a propagation time signal.

52. The sensor unit of claim 47, wherein the wireless transmission of the data between the sensor unit and the environmental device is performed according to one of (i) a WLAN (IEEE

802.11) standard and (ii) a wireless personal area network standard (IEEE 802.15).

53. The sensor unit of claim 47, wherein the data transmission between the sensor unit and the environmental device is bidirectional.

54. The sensor unit of claim 47, wherein the environmental device is coupled to a process control system.

55. The sensor unit of claim 54, wherein the environmental device is wirelessly coupled to the process control system.

56. The sensor unit of claim 54, wherein the data transmission between the environmental device and the process control system is bidirectional.

57. The sensor unit of claim 54, wherein the environmental device is a mobile device.

58. The sensor unit of claim 47, wherein the sensor unit is wirelessly coupled to a further environmental device, the further environmental device including a control and display unit.

59. The sensor unit of claim 58, wherein the further environmental device is a mobile device.

60. The sensor unit of claim 58, wherein the environmental device is wirelessly coupled to the further environmental device.

61. The sensor unit of claim 58, wherein the data transmission occurs between the environmental device and the further environmental device and wherein the data transmission is bidirectional.

62. The sensor unit of claim 58, further comprising:

a further transceiver device communicating with the further environmental device.

63. The sensor unit of claim 58, wherein the wireless transmission of the data between at least one of (i) the sensor unit and the further environmental device and (ii) the environmental device and the further environmental device is performed according to one of (a) a WLAN (IEEE 802.11) standard and (b) a wireless personal area network standard (IEEE 802.15).

64. The sensor unit of claim 58, wherein the sensor unit exchanges parameter and status data with the further environmental device.

65. The sensor unit of claim 47, wherein (i) the analysis unit and (ii) a control and display unit are integrated into the environmental device.

66. The sensor unit of claim 47, wherein the sensor unit includes an interface for a wire-bound data transmission.

67. A data communication system, comprising:

a plurality of sensor units of claim 47; and

an environmental device wirelessly communicating with the sensor units, the environmental device being coupled to an analysis unit.

68. The data communication system of claim 67, further comprising:

a further environmental device including a control and display unit.

69. An environmental device, comprising:

a transceiver device wireless communicating with at least one sensor unit of claim 67;

an analysis unit processing and converting a digital measured signal received from a sensor unit into a measured value, the analysis unit being one of (i) integrated into the environmental device and (ii) external to the environmental device.